6:Spate N-4 (no date)1954 AWI India
Telugu

12 m.; densities increase from Ganjam (420) to E Godavari (714) and then decrease to Guntur (393); beyond the regional limits Nellore, with more Archaean terrain than the central parts of the Circars, and less (and less reliable and well distributed) rain than the Nn, had only 204. On the whole it seems best to treat Ganjam/Vizagapatam and the deltas separately.

(a) *The North*: *Ganjam and Vizagapatam* (*Vizakhapatnam*)

Essentially this is the area with over 40 ins.: the three Sn taluks of Vizagapatam fall a little short of this. The lowland narrows to 12 miles under Mahendragiri, but on either side of this gate are the embayments of the Rushikulya (Ganjam) and the Languliya and Vansadhara (Vizag) valleys. The plains are floored by red lateritic soils near the hills, shading off into black loams and clays; but they are cut up by numerous irregular outliers of the En Hills: thus Vizagapatam itself lies between the 1600-ft Kailana Ridge to the N and the 1100-ft Yaroda to the S; the latter runs out to sea in the bold cliffs (300 ft) of Dolphin's Nose which shelters the port, while in the Nn suburbs of the town are the peculiar Waltair Highlands, *c.* 150 ft high and formed largely by the accumulation, since the Pleistocene, of red loams partly fluviatile and partly perhaps aeolian.[3]

Of a TSA of some 4 m. ac., rice accounts for about 1·65 m. ac., ragi 390,000, oilseeds (chiefly groundnut) 500,000, the balance being widely distributed amongst millets and pulses mainly. Irrigation is on the whole unimportant, much of it being dependent on temporary mud-and-brushwood dams across the short rivers.

Mineral resources are few—graphite, manganese, kaolin, mica—and hardly developed; a potential resource of some interest in this atomic age, though limited in amount in comparison with other *Indian* occurrences, is the ilmenite and monazite in the dunes and beaches around Vizagapatam.[4] Industrial development—with the important exception of the Vizag shipyards—is again negligible: two or three jute and sugar mills in the Vizagapatam plains. Hydro-electric development in the hills might alter this.

Again there is only one real town, 'Vizag' itself (**108,042**), which has developed considerably since the opening of the railway up the Languliya valley to Raipur and the subsequent dredging of a deep-water harbour in the tidal marshes. The accommodation at quayside is limited, but it is more up-to-date than at most E coast ports. The selection of Vizag as the main shipbuilding centre of *India* is presumably because of its situation as the nearest *ocean* port to Jamshedpur, but it is still a long way round. Ships up to 8000 tons have been launched. The hinterland extends to Nagpur and the chief trade is in Madhya Pradesh (CP) manganese, and oilseeds and their products. The small ports of Bimlipatam and Gopalpur are quite

[3] See the very original paper by C. Mahadevan and N. Sathapathi, "The Origin of the Waltair Highlands", *IGJ* XXIV (1949), 26–51.

[4] *Ibid.*, *loc. cit.*, 29.